

REMARKS

Objection to Declaration

Applicants are grateful for the courtesy shown by Examiner Dam during a phone call with the undersigned March 6, 2008. Applicants were seeking clarification of the reasons for objection to the Declaration. Upon reconsideration, Examiner determined that the Declaration was in order and the objection would be withdrawn.

Claim Rejection based on Hamamoto et al.

Claims 1 - 19 were rejected under 35 U.S.C. 103(a) as being obvious over United States Publication Number 2002/0185169 A1 by Hamamoto et al.

Hamamoto et al. describes a thermocouple structure for sensing infrared radiation similar to Applicants' exemplary prior art FIG. 1-2. Hamamoto et al. acknowledges that increasing the structure's thermal isolation between the thermocouples exposed to infrared radiation (first end) and the reference thermocouples (second end) would increase the sensing sensitivity, see Paragraphs 0013, 0017, and 0091. However, the only structure disclosed by Hamamoto et al. to address this is forming a larger sensor by undesirably lengthening the sensor tip. In contrast, Applicant's increase the thermal isolation by using a thinner, less thermally conductive, second conductor 14 to overlay and traverse the length of the first conductor 16, see Paragraph 0009. The thicker third conductor 24, capable of reliably traversing steps formed by the dielectric layer 26 and the first conductor 12, is only used at the second end of the structure where necessary.

Applicants' thermocouple structure improvement of using a thinner second conductor to overlay and traverse the length of the first conductor and only using the thicker third conductor at

one end of the structure, allows the structure to be made smaller, and therefore less expensive, while providing the enhanced sensitivity. The structure size can be reduced because the length of the first and second conductor segments can be decreased without degrading the thermal isolation, thereby bringing the thermocouple sites at each end of the segments closer together without reducing sensitivity. Without this feature, Hamamoto et al. does not anticipate or suggest Applicants' invention.

Claim 1 is directed to Applicants' apparatus including second conductors overlaying first conductors and connected at the first ends, and third conductors, interconnecting the second ends of non-overlaying first and second conductors, the third conductor having a thickness greater than the thickness of the second conductors. Hamamoto et al. does not show overlaying first and second conductors, or using a third conductor having a thickness greater than the thickness of the second conductor. Thus, Hamamoto et al. does not teach or suggest Applicants' apparatus in claim 1.

Claims 2-11 are dependent upon claim 1 and so not taught or suggested by Hamamoto et al. at least for the reasons set forth with regard to that claim.

Similarly, claim 12 is directed to Applicants' apparatus including overlaying a second conductor on a first conductor, or third conductors having a thickness greater than the thickness of the second conductors. Hamamoto et al. does not show this feature and therefore does not teach or suggest Applicants' apparatus in claim 12, or claims 13-19 dependent thereon.

Accordingly, Applicants respectfully request that the rejection based in Hamamoto et al. be reconsidered and withdrawn, and that the claims be allowed.

Conclusion

It is believed, in view of the remarks herein, that the grounds of rejection has been addressed and overcome, and that all claims are in condition for allowance. Therefore, it is respectfully requested that all rejections be withdrawn and that the claims be considered in the present application.

If it would further prosecution of the application, the Examiner is urged to contact the undersigned at the phone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 50-0831.

Respectfully submitted,



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